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## Japanese Beetles Begin Emergence

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# Integrated Crop Management NEWS

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## Japanese Beetles Begin Emergence

By Erin Hodgson, Department of Entomology

Japanese beetle is an invasive insect capable of feeding on corn and soybean. This pest has been in Iowa since 1994 but its distribution in field crops is considered sporadic around the state. Statewide populations were low in 2014 and it is unclear if pressure will be significant this year. Literature shows Japanese adults need about 1,030 growing degree days (base 50°F) to complete development and will continue emergence until around 2,150 degree days. Based on accumulating degree day temperatures in 2015, Japanese beetle adults should be active in some areas of southern Iowa this week (Figure 1). To more accurately predict adult emergence in your area this summer, use this [website](#) to generate up-to-date information. Click on the “View Degree Day Map” button in the left corner of the page, and then set the parameters for degree days to create a new map. Make sure to set the start date to January 1 of the current year and the end date to today; set the base temperature to 50°F and the ceiling temperature to 86°F.

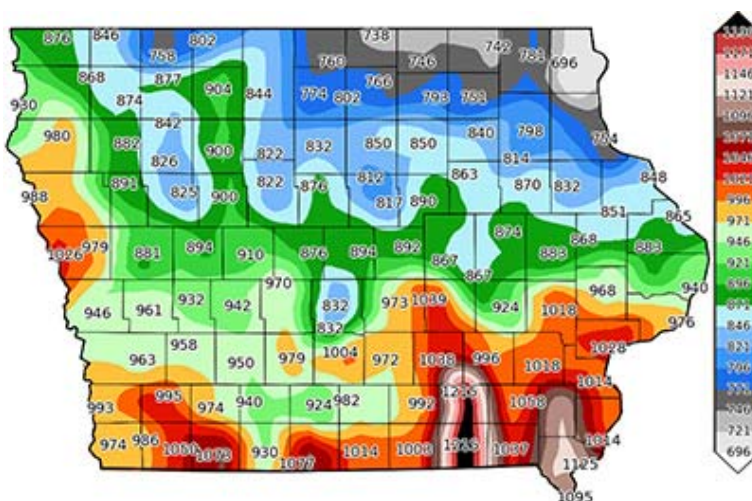


Fig 1. Growing degree days accumulated (base 50°F) for Japanese beetle adults in Iowa (1 January-14 June 2015). Adults begin emergence around 1,030 degree days.

## Life Cycle

Japanese beetles have one generation per year in Iowa (Photo 1). Adults emerge from grass in late June and immediately begin to feed on low-lying plants such as roses and shrubs. Adults eventually move up trees and field crop foliage to feed and mate. Mated females move back to grass in August and September to lay small egg masses in soil cavities. The eggs hatch into small grubs that feed on roots underground until late September when the temperature cools. The almost fully-grown grubs burrow down in the soil and remain inactive all winter. In the early spring, grubs become active again and feed until turning into resting pupae. The pupae hatch into adults and emerge from the soil.



Photo 1. Adults are metallic bronze and green with white tufts along the side of the abdomen. Photo by David Cappaert, [www.ipmimages.org](http://www.ipmimages.org).  
Plant Damage and Management

Japanese beetles have a wide host range that includes many species of fruit and vegetable crops, ornamentals, and field crops. Adults prefer to feed between soybean leaf veins but can ultimately consume most of the leaf (Photo 2). The treatment threshold for Japanese beetle in soybean is 30 percent defoliation before bloom and 20 percent defoliation after bloom. Most people tend to overestimate plant defoliation, but this [reference](#) can help with more accurate estimations. In corn, Japanese beetles can feed on leaves, but the most significant injury comes from clipping silks during pollination (Photo 3). Consider a foliar insecticide during tasseling and silking if: there are 3 or more beetles per ear, silks have been clipped to less than 1/2 inch, AND pollination is less than 50% complete.



Photo 2. Japanese beetles skeletonize soybean leaves. Photo by Mark Licht, Iowa State University.



Photo 3. Japanese beetles are strongly attracted to silking corn. Photo by Erin Hodgson, Iowa State University.

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